where he will serve as associate professor of surgery in the University of the Philippines.

A LECTURESHIP in fossil botany has been started at University College, London University, to which Dr. Marie Stopes has been appointed.

DISCUSSION AND CORRESPONDENCE

A SECOND CAPTURE OF THE WHALE SHARK, RHINEODON TYPUS, IN FLORIDA WATERS

IN SCIENCE for February 28, 1902, and again in Smithsonian Miscellaneous Collections, Vol. 48, 1905, Mr. B. A. Bean, of the United States National Museum, has recorded the coming ashore on the beach three miles north of Ormond, Florida, of an 18-foot specimen of the whale shark, *Rhineodon typus,* the skin and some parts of which are preserved in the National Museum.

Mr. Bean, in the above papers, and Dr. Gill, in SCIENCE for May 23, 1902, and May 19, 1905, have thoroughly and interestingly summarized almost all the scanty literature of this very large and very rare fish. The purpose of this note is to record the capture in Florida waters of another and much larger specimen than the one of which Mr. Bean has made note.

On June 1, 1912, Captain Charles Thompson, of Miami, Florida, captured near Knight's Key, Florida East Coast Railway Extension, what is probably the largest specimen of the whale shark ever taken by man. This monster is reported to have been 45 feet long, and 23 feet in circumference, and its weight is estimated at from 15,000 to 30,000 pounds.

While in Miami last summer I talked with Captain Thompson and saw the as yet unmounted skin. To one who has never seen a whale, the skin of this shark is inconceivably large. During the winter Captain Thompson has had the skin mounted, and photographs of it show that the work has been well done. Through his courtesy I have not only these photographs, but also one of the fish taken shortly after its capture.

During the winter I have been collecting data on *Rhineodon,* and during the coming summer I expect to be in Miami, at which time I purpose with Captain Thompson's permission to describe and to make careful measurements and to get from him full data concerning the capture of this great fish. This will be embodied in another and more extensive paper to be published later, in which will be included certain historical data not given in either Dr. Gill's or Mr. Bean's papers above referred to. In the meantime it seems well to call attention to this the second occurrence of the whale shark in the waters of the east coast of the United States.

As to the name of this fish, *Rhineodon typus,* the following statement may be made. The whale shark was first described from Table Bay, Cape of Good Hope, South Africa, by Dr. Andrew Smith in April, 1828. His description and figure were published in the *Zoological Journal* for 1829 under the name *Rhincodon typus.* However, this is clearly a typographical error, since the derivation is *rhine,* file + *odous* (*odont*), tooth. Muller and Henle (1838) first used the name given at the head of this paragraph, but later (1841) wrote it as it is commonly put, *Rhinodon typicus.* Dr. Gill, however (1905), goes back to the former spelling.

E. W. GUDGER
STATE NORMAL COLLEGE,
GREENSBORO, N. C.

"CARBATES"

TO THE EDITOR OF SCIENCE: In this age of method, accuracy and conciseness, we say sulphates instead of sulphurates; phosphates for phosphorates (better still, sulfates and fosfates); nitrates for nitrogenates; chlorates for chlorinates. Why should we not say *carbates* instead of carbonates?

We already say carbides instead of carbonides; why should we not follow the fashion consistently and say *carbates?*

We should then have the word carbation to mean the formation of carbates, leaving the word carbonation to refer to the development of carbon in a substance which would fittingly correspond to the present word carbonize, and so avoid a puzzling ambiguity.

Furthermore, the saving of time and printer's ink would amount to something in a word so often used.

J. E. TODD
UNIVERSITY OF KANSAS

FROST IN CALIFORNIA

TO THE EDITOR OF SCIENCE: In a recent issue of SCIENCE mention was made of the effect of a recent freeze upon the vegetation of southern California resulting in the destruction of many introduced varieties, including some very large trees.

The writer has been considerably interested in observing the effect of the freeze in this section, especially upon the different varieties of trees. Immediately following the freeze it did appear that many of the trees were probably killed. Peppers, eucalyptus, acacias and grevilleas among the larger trees suffered severely. Trees two to three feet in diameter and from twenty-five to thirty years old in some cases had the bark split clear to the wood almost from top to bottom of the tree. The bark turned black clear to the wood and great masses of it could be split off easily. Supposing that trees in such condition were certainly dead scores of them were cut down at once. Wiser counsel was to delay operations until opportunity was given to see what the outcome might be.

One can scarcely conceive what such a loss means to a community such as this, where shade means so much and where such magnificent results have been obtained. Some of our streets were lined with rows of eucalyptus from 75 to 150 feet high. Many of these have been cut down. Subsequent results show that delay in cutting and pruning was the wiser course in this instance, for, incredible as it may seem, many of the trees which had their bark split and turned black and loosened from the wood seem to have begun to develop a new bark, or in many cases the old bark seems to be reuniting with the wood and leaves and branches are being put forth.

I do not believe a single pepper of any size perished. In fact it seems to the writer that in their new coat of green they look brighter and fresher than ever.

Some of the acacias and grevilleas were probably killed, but I visited an acacia just recently which two weeks ago one would certainly have pronounced dead. The bark was split and loosened from the trunk and dry as tinder, the limbs were bare and brittle and dry enough to burn, but to my surprise when last I saw it here and there along the trunk the bark seemed to be reforming and green shoots a foot or more in length had grown. It looks as if with judicious pruning and care the tree might be made to live, though probably hideously deformed.

Perhaps the most surprising results are to be observed among the eucalyptus trees. Some varieties have suffered severely. The sugar gum (*E. cornocalyx*), lemon gum (*E. citriodora*), *E. robusta* and *E. callyophylla* suffered considerably. The blue gum. *E. globulus,* was injured in some localities. *E. amygdalina* was not injured at all.

The surprising feature in every case is the formation of a new bark or the rejuvenation of the old. Trees on which the bark was split and black and loosened from the wood now have bark green and full of sap and firmly united to the wood. The branches are for the most part dead, except the very large ones, and stand out bare and brown. The trunk and larger branches are covered almost from top to bottom with a new extremely dense growth of adventitious branches, thickly covered with leaves, giving the tree a peculiar fuzzy appearance.

Judging from the recovery of trees which two months ago were apparently lifeless, I believe it is safe to say that very few trees which were more than two or three years old and in a fairly healthy condition when the freeze came need have been cut. Judicious pruning will later be necessary.

S. A. SKINNER
REDLANDS HIGH SCHOOL,
REDLANDS, CAL.

SCIENTIFIC BOOKS

Anleitung zur Kultur der Mikroorganismen. Von ERNST KÜSTER. 2d edition. Leipzig and Berlin, B. G. Teubner. 1913.